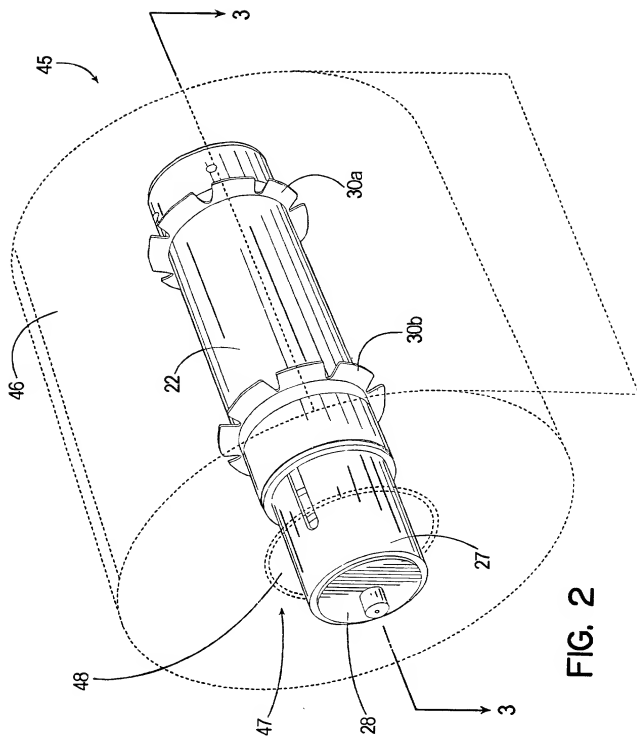


FIG. 1



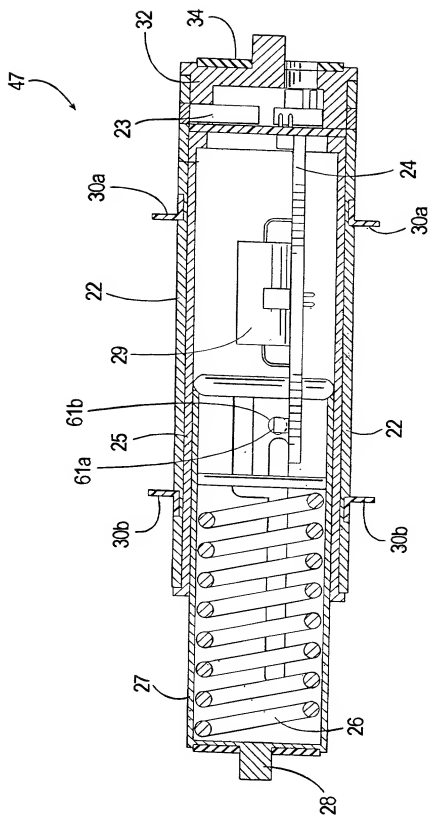


FIG. 3

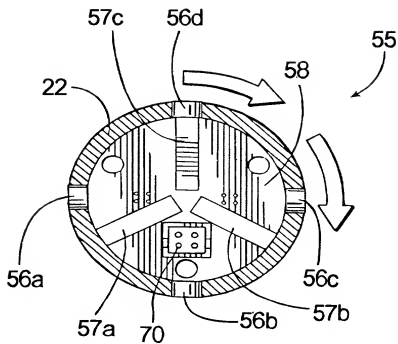
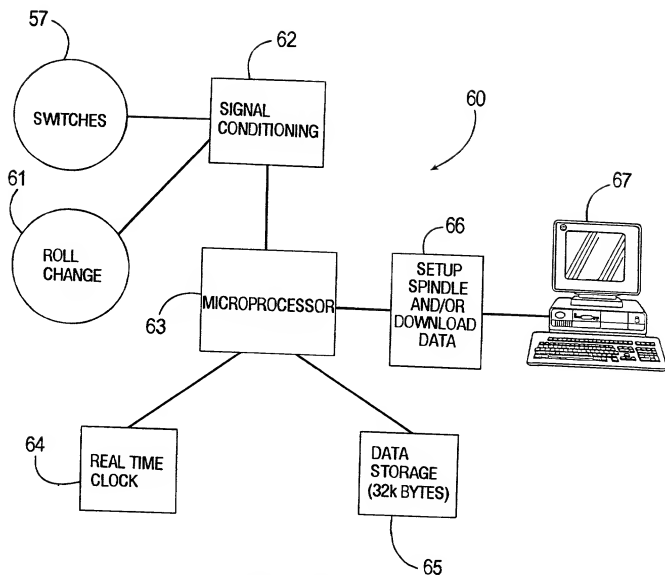


FIG. 4

**FIG. 5**

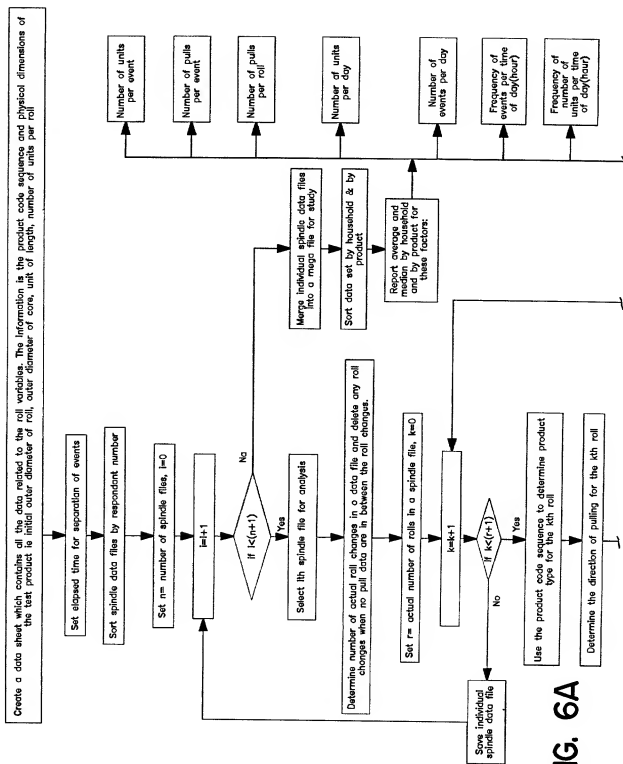


FIG. 6A

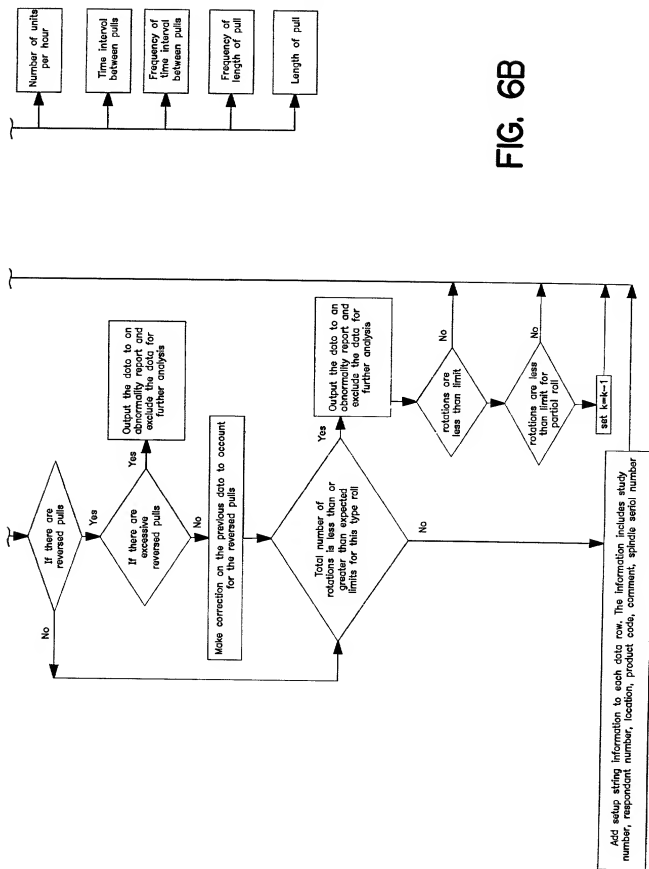


FIG. 6B

Use of Smart Spindle for toilet paper utility in Consumer Home

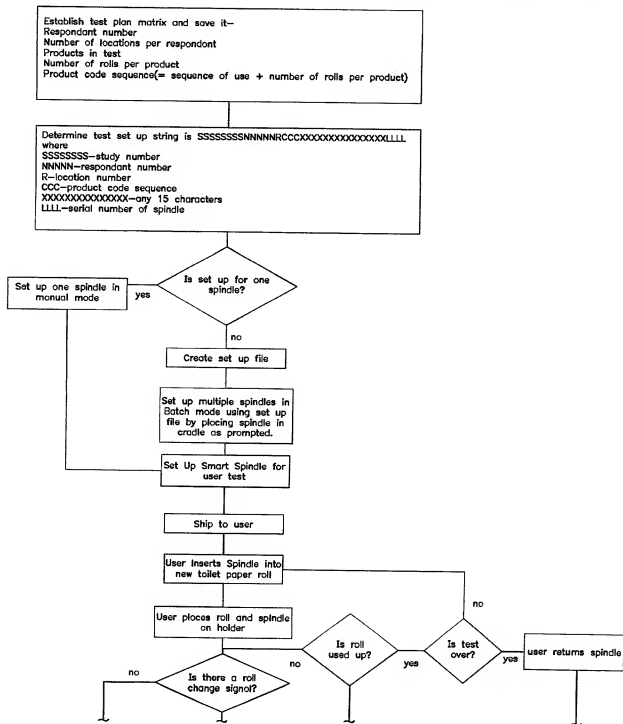


FIG. 7A

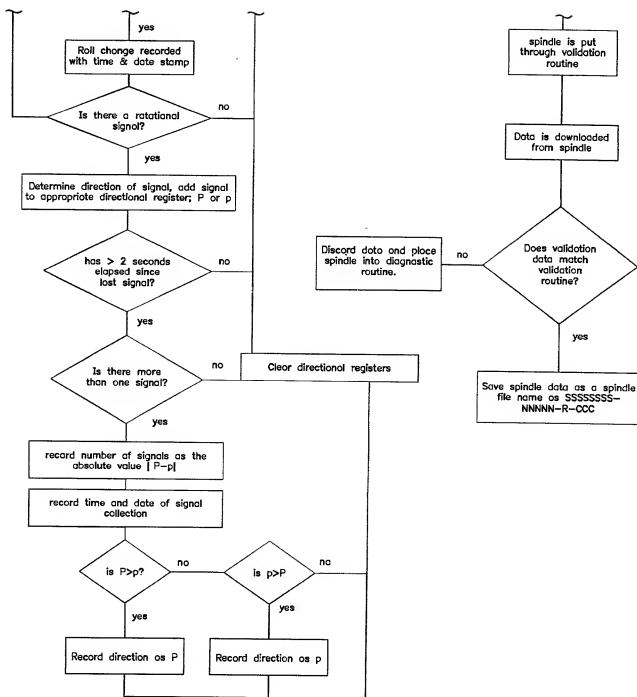
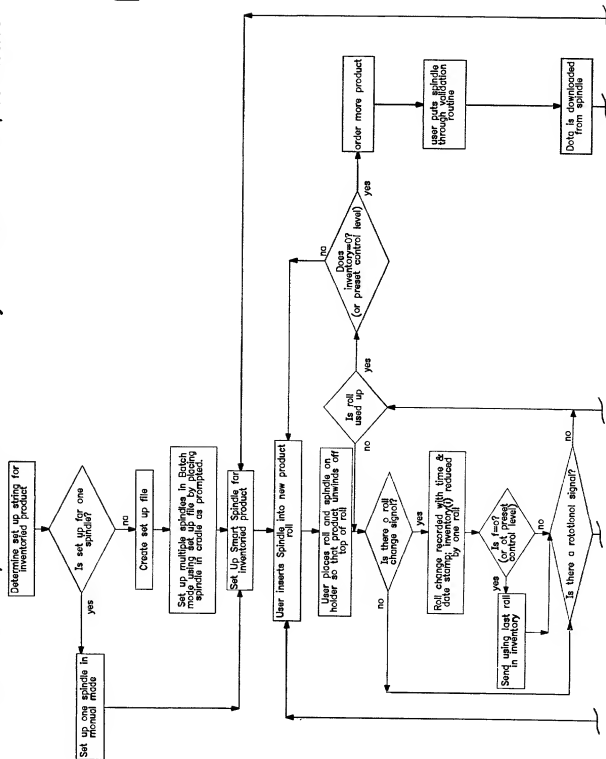
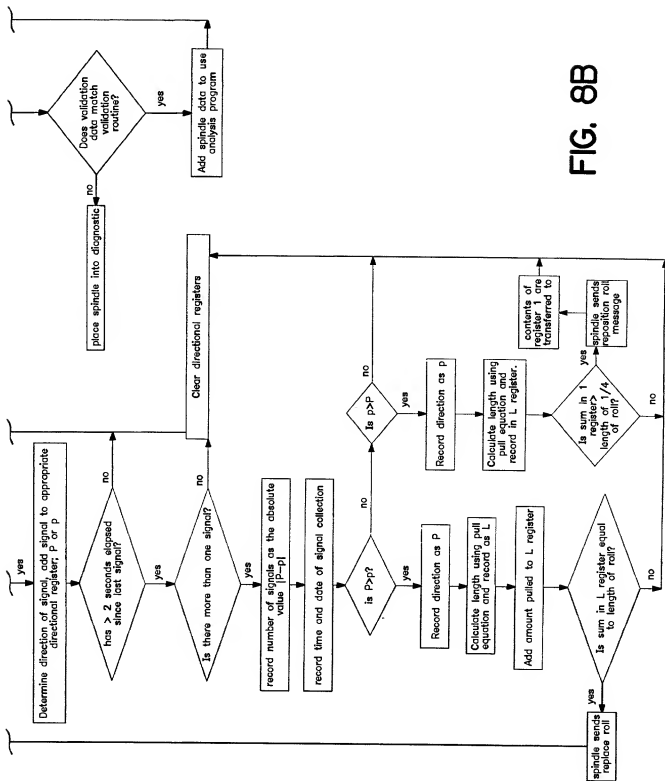


FIG. 7B

Use of Smart Spindle to control an inventory in Consumer Home, retailstore





☐ Spindle Manager

File Help

Setup Collect

File Setup

Setup File

Spindle ID

☐ Always Setup

Manual Setup

Spindle ID

0 Not downloaded 1:01:

FIG. 9

Microsoft Excel-SS-02.xls

File Edit View Insert Format Tools Data Window Help

Microsoft Word-SS-PR...

Microsoft Excel 1...

Ready

Start

1:07 PM

	A	B		I	J
1	Employee				
2	R	10500	1		
3	P	10500	1		
4	P	10500	2		
5	P	10600			
6	P	10600			
7	P	10600			
8	P	10600			
9	P	10600			
10	P	10600			
11	P	10600	2		
12	P	10700			
13	P	10700			
14	P	10700			
15	P	10700			
16	P	10700			
17	P	10700			
18	P	10700	114848		
19	P	10700	203518		
20	P	10800	11226		
21	P	10800	11236		

Test Setup

Study # Employee

Subject # 1

Bathroom # 1

Product ID ASK

Spindle ID 1

Criterion for Vial(min) 3.0

Refresh OK

FIG. 10

☐ Spindle Manager

File Help

Setup Collect

Batch Collect

Start Directory C:\Ms Td\MSG\Smart Spindle\Spindle Change

Finish Spindle ID

☐ Over-write Files

Single Collect

Collect View

Save

0 Not downloaded 1:09:

FIG. 11

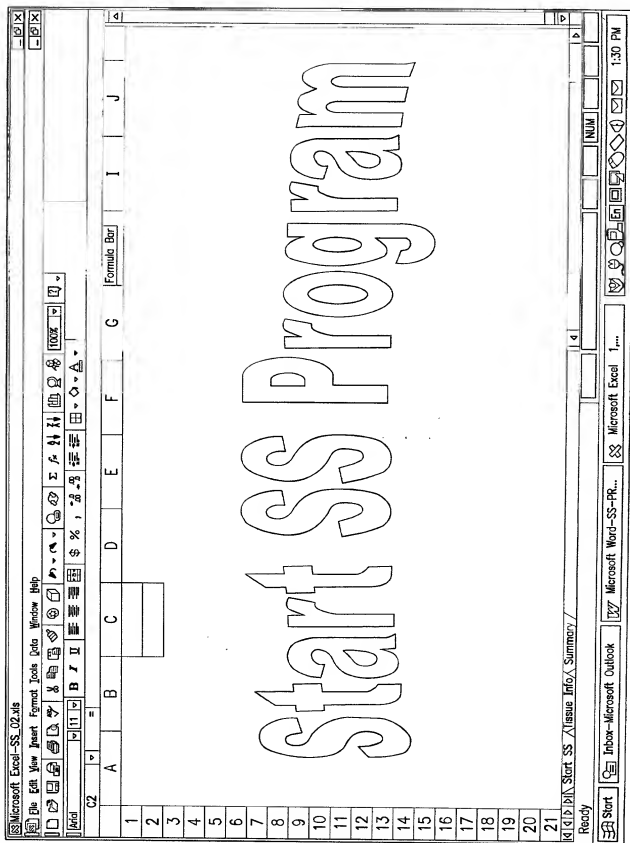


FIG. 12

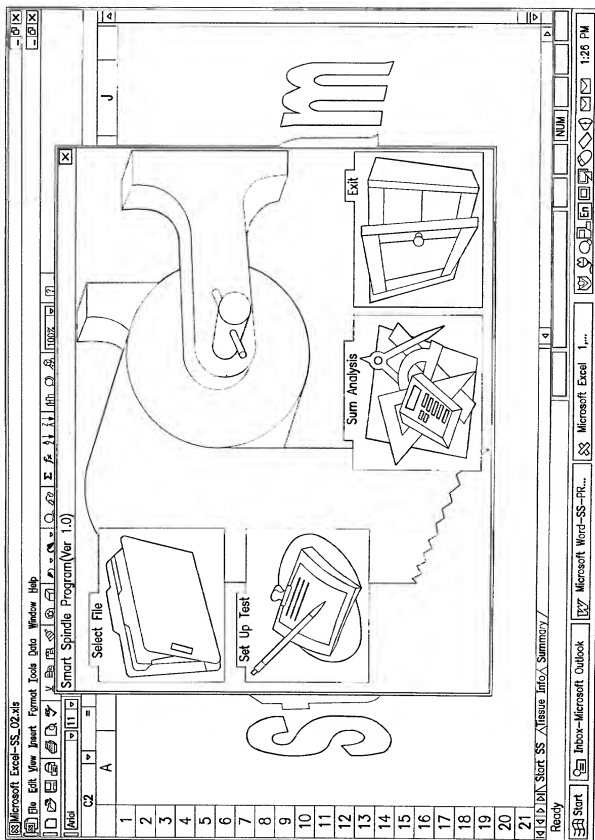


FIG. 13